CLAIMS

What is claimed is:

1. A polypropylene-based resin composition for powder slush molding comprising:

(A) 1 to 40 parts by weight of a polypropylene;

(B) 10 to 50 parts by weight of a styrene rubber;

(C) 10 to 50 parts by weight of an ethylene- α -olefin copolymer rubber;

(D) 1 to 20 parts by weight of a process oil; and

(E) 1 to 30 parts by weight of a polypropylene wax

with reference to 100 parts by weight of the resin composition.

2. The polypropylene-based resin composition for powder slush molding according to claim 1, wherein said polypropylene is selected from the group consisting of polypropylene homopolymer, propylene-ethylene copolymer, and propylene-ethylene-butene terpolymer and has a melt index of 20 to 70g/10min at 230°C under 2.16 kg of load.

3. The polypropylene-based resin composition for powder slush molding according to claim 1, wherein said styrene rubber comprises 10 to 60 parts by weight of styrene and 40 to 90 parts by weight of a combination of butadiene and ethylene based on 100 parts of styrene rubber, and has a melt index of 10 to 60g/10min at 200°C under 5 kg of load.

4. The polypropylene-based resin composition for powder slush molding according to claim 1, wherein said ethylene- α -olefin copolymer rubber comprises 10 to 40 parts by weight of octene per 100 parts of ethylene- α -olefin copolymer, and has a Mooney viscosity (ML_{1+4}, 121°C) of 10 to 40.

5. The polypropylene-based resin composition for powder slush molding

according to claim 1, wherein said process oil is selected from the group consisting of paraffin, aromatic, and naphthene oils having a viscosity of 10 to 800 centi-Stokes (40°C).

6. The polypropylene-based resin composition for powder slush molding of claim 1, wherein said polypropylene wax is selected from the group consisting of propylene homopolymer, propylene-ethylene copolymer, and propylene-ethylene-butene terpolymer and has a viscosity of 50 to 800 cps (170°C, Brookfield viscometer).

7. The polypropylene-based resin composition for powder slush molding of claim 1, the composition with reference to 100 parts by weight of the composition comprising:

(A) 20 to 30 parts by weight of the polypropylene, wherein the polypropylene is selected from the group consisting of polypropylene homopolymer, propylene-ethylene copolymer, propylene-ethylene-butene terpolymer, or mixtures thereof, and has a melt index of 20 to 70g/10min at 230°C under 2.16 kg of load;

(B) 20 to 40 parts by weight of the styrene rubber, wherein the styrene rubber comprises 10 to 60 parts by weight of styrene and 40 to 90 parts by weight of a combination of butadiene and ethylene based on 100 parts of styrene rubber, and has a melt index of 10 to 60g/10min at 200°C under 5 kg of load;

(C) 20 to 40 parts by weight of the ethylene-α-olefin copolymer rubber, wherein the ethylene-α-olefin copolymer rubber comprises ethylene-octene rubber, and has a Mooney viscosity (ML_{1+4}, 121°C) of 10 to 50;

(D) 5 to 15 parts by weight of the process oil, wherein the process oil comprises paraffin oil, and has a viscosity of 400 to 800 centi-Stokes (40°C); and

(E) 10 to 20 parts by weight of the polypropylene wax, wherein the polypropylene has a viscosity of 50 to 800 cps (170°C, Brookfield viscometer).

8. The polypropylene-based resin composition for powder slush molding of claim 1, the composition with reference to 100 parts by weight of the composition comprising:

(A) 20 to 30 parts by weight of propylene-ethylene-butene terpolymer having a

melt index of 40 to 60 g/10min at 230°C under 2.16 kg of load;

(B) 20 to 40 parts by weight of the styrene rubber having a melt index of 10 to 60 g/10min at 200°C under 5 kg of load and a hardness of 20 to 80 Shore A;

(C) 20 to 40 parts by weight of ethylene-octene rubber having 20 to 35 parts by weight octene per 100 parts of ethylene-octene rubber and a Mooney viscosity (ML_{1+4}, 121°C) of 20 to 50;

(D) 5 to 15 parts by weight of paraffin process oil having a viscosity of 400 to 600 centi-Stokes (40°C); and

(E) 10 to 20 parts by weight of polypropylene wax having a viscosity of 50 to 800 cps (170°C, Brookfield viscometer).

9. The polypropylene-based resin composition for powder slush molding of claim 1, the composition with reference to 100 parts by weight of the composition comprising:

(A) 10 to 40 parts by weight of propylene-ethylene-butene terpolymer having a melt index of 20 to 70 g/10min at 230°C under 2.16 kg of load;

(B) 20 to 40 parts by weight of the styrene rubber comprising 10 to 60 parts by weight of styrene and 40 to 90 parts combined of ethylene and butadiene per 100 parts of styrene rubber;

(C) 20 to 40 parts by weight of ethylene-octene rubber;

(D) 5 to 15 parts by weight of process oil having a viscosity of 400 to 800 centi-Stokes (40°C); and

(E) 5 to 25 parts by weight of polypropylene wax having a viscosity of 50 to 800 cps (170°C, Brookfield viscometer).

10. The polypropylene-based resin composition for powder slush molding of claim 1, the composition with reference to 100 parts by weight of the composition comprising:

(A) 10 to 40 parts by weight of propylene-ethylene-butene terpolymer having a melt index of 20 to 70 g/10min at 230°C under 2.16 kg of load;

(B) 20 to 40 parts by weight of the styrene rubber comprising 10 to 60 parts by weight of styrene and 40 to 90 parts combined of ethylene and butadiene per 100 parts

of styrene rubber;

(C) about 20 parts by weight of ethylene- α -olefin copolymer rubber;

(D) 5 to 15 parts by weight of process oil having a viscosity of 400 to 800 centi-Stokes (40°C); and

(E) 5 to 25 parts by weight of polypropylene wax having a viscosity of 50 to 800 cps (170°C, Brookfield viscometer).

11. The polypropylene-based resin composition for powder slush molding of claim 1, wherein the composition is a substantially homogenous powder having a particle size of between about 200 μm to about 300 μm.

12. The polypropylene-based resin composition for powder slush molding of claim 7, wherein the composition is a substantially homogenous powder having a particle size of between about 200 μm to about 300 μm.

13. The polypropylene-based resin composition for powder slush molding of claim 8, wherein the composition is a substantially homogenous powder having a particle size of between about 200 μm to about 300 μm.

14. The polypropylene-based resin composition for powder slush molding of claim 9, wherein the composition is a substantially homogenous powder having a particle size of between about 200 μm to about 300 μm.

15. The polypropylene-based resin composition for powder slush molding of claim 10, wherein the composition is a substantially homogenous powder having a particle size of between about 200 μm to about 300 μm.

16. A process for producing an interior surface for an automotive instrument panel, wherein said process comprises:

forming a powder of the composition of claim 1 by cryofreeze pulverization in

the presence of liquid nitrogen to have an average particle size of 200 to 300 μm; and

forming the surface by powder slush molding the powder to a substrate.

17. The process for producing an interior surface for an automotive instrument panel of claim 16, wherein the substrate is not a primer coat.

18. The process for producing an interior surface for an automotive instrument panel of claim 16, wherein the powder is of the composition of claim 7.

19. A polypropylene-based resin composition for powder slush molding comprising:

(A) 10 to 40 parts by weight of a polypropylene, wherein the polypropylene is selected from the group consisting of polypropylene homopolymer, propylene-ethylene copolymer, propylene-ethylene-butene terpolymer, or mixtures thereof, and has a melt index of 20 to 70g/10min at 230°C under 2.16 kg of load;

(B) 20 to 40 parts by weight of a styrene rubber comprising 10 to 60 parts by weight of styrene per 100 parts of styrene rubber and has a melt index of 10 to 60g/10min at 200°C under 5 kg of load;

(C) 10 to 50 parts by weight of an ethylene- α -olefin copolymer rubber selected from the group consisting of ethylene-propylene rubber, ethylene-propylene-diene rubber, ethylene-octene rubber, or mixtures thereof, and has a Mooney viscosity (ML_{1+4}, 121°C) of 10 to 50;

(D) 5 to 15 parts by weight of the process oil, wherein the process oil comprises paraffin oil, and has a viscosity of 400 to 800 centi-Stokes (40°C); and

(E) 5 to 25 parts by weight of a polyolefin wax selected from the group consisting of propylene homopolymer wax, propylene-ethylene copolymer wax, propylene-ethylene-butene terpolymer wax, polyethylene wax, or mixture thereof, and has a viscosity of 50 to 800 cps (170°C, Brookfield viscometer),

with reference to 100 parts by weight of the resin composition, wherein the composition is a substantially homogenous powder having a particle size of between about 200 μm

to about 300 μm.